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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/601,961	08/25/2000	Peter Augustinius Johannes Achten	7238/OH418	5233

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Darby & Darby
805 Third Avenue
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EXAMINER

LOPEZ, FRANK D

ART UNIT	PAPER NUMBER
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3745

DATE MAILED: 11/29/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/601,961

Applicant(s)

ACHTEN, PETER AUGUSTINIUS
JOHANNE

Examiner

F. Daniel Lopez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-42 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 21-42 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claims ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) g.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

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Information Disclosure Stat ment

The list of references, filed 9 August 2000, indicates that it is 1 of 2 sheets. The second sheet was not received and all of the references enclosed were listed on the one sheet. If there is another sheet, please send it with the next communication; otherwise the Office will interpret the 2 as a typo and consider the listing having only one sheet.

Claim Rejections - 35 USC § 112

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

Claims 21-42 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 21 line 2 "may be" is not a positive limitation. In claim 21 line 5 "a hydromotor" is confusing, since it appears to be the same as that of line 2.

In claim 26 line 2 "the pressure" has no antecedent basis.

Claim 27 is dependent from canceled claim 1. In claim 27 line 3 "for example," should be deleted.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74

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(Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 28 recites the broad recitation "a frequency of at least 3" (line 3), and the claim also recites "and preferably more than 7" (line 3) which is the narrower statement of the range/limitation.

In claim 28 line 3 "valve" should be --value--.

In claim 31 line 3 "at underpressure" is confusing.

In claim 34 line 9-10 "wherein the volume...to be sealed by means of the face plate is maximally four times at large as the minimum" is confusing and appears to contradict the specification. The specification states that "the maximum volume sealable by the face plate is smaller than three to five times the minimum of the sealable volume" (page 8 line 13-15). The "minimum" of line 10 refers back to the minimum volume of the chamber (line 6) not the minimum of the sealable volume. It is also unclear what "maximally" refers to, whether it refers to the volume or to the four times.

In claim 35 line 2 "the volume...is maximally three times the minimum" has the same problems as in claim 34 above, and also appears to contradict claim 34, since "three times" is not "four times" (in this case, the maximally is understood to refer to the volume).

In claim 37 line 3 "a face plate gate" is confusing and wrong, should be --one of the fluid chambers--, to agree with page 8 line 37- page 9 line 9).

In claim 39 line 2 "the external circumference", claim 40 line 2 "the rotation axis", claim 41 line 1-2 "the second separating surface", and claim 41 line 3 "the second radius" have no antecedent basis.

Claims not specifically mentioned are indefinite, since they depend from one of the above claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 21, 22, 25, 26 and 32 are rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103 as obvious over Roche. Roche discloses a transformer which includes fluid displacers (e.g. 36, 38) rotatably coupled together. It would appear that there is a rotor, either as part of each displacer, or part of what couples the displacers together, and so meets the limitation concerning the transformer with a rotor. If not, it would have been obvious to include a rotor, either as part of each displacer, or part of what couples the displacers together.

Concerning claim 25, Roche discloses the flow sensor (e.g. 366), which is shown as a restriction in a circle. Standard flow sensors are pressure sensors connected to a restriction valve in the fluid line. It would appear that the flow sensor 202 of Roche is a standard flow sensor, which includes a restriction valve; if not, one of ordinary skill in this art would make the flow sensor of Roche with a restriction valve in the flow line.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 23, 24 and 31 are rejected under 35 U.S.C. § 103 as being unpatentable over Roche. Roche discloses a fluid system comprising a hydraulic transformer (e.g. including 278, 286), provided with a rotor (see above) and an adjusting means

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(including 298, 300), connected to a hydromotor by connecting lines (e.g. 276); high (e.g. 272) and low (e.g. 296) pressure lines for transporting fluid to and from the transformer; and a flow sensor (e.g. 366) measuring the flow in the connecting line between the transformer and the hydromotor; but does not disclose that the flow sensor is a movement sensor for measuring the rotor's rate of rotation, or for measuring the hydromotor's rate of movement; or that the hydromotor is a linear cylinder, and the hydraulic system includes means for supplying fluid to the cylinder from the low-pressure line.

Official notice is taken that flow to a hydromotor from a transformer can be measured by a number of sensors, which include a movement sensor for measuring the rotor's rate of rotation, and a movement sensor for measuring the hydromotor's rate of movement. It would have been obvious at the time the invention was made to one having ordinary skill in the art to replace the flow sensor of Roche with a flow sensor, which includes either a movement sensor for measuring the rotor's rate of rotation, or a movement sensor for measuring the hydromotor's rate of movement, as a matter of engineering expediency.

Official notice is taken that a hydromotor can be a linear cylinder, and that hydraulic systems include means for supplying fluid to the cylinder from the low-pressure line, to prevent cavitation. It would have been obvious at the time the invention was made to one having ordinary skill in the art to make the hydromotor of Roche a linear cylinder, as a matter of engineering expediency, with means for supplying fluid to the cylinder from the low-pressure line, to prevent cavitation.

Claims 34-37 and 24 are rejected under 35 U.S.C. § 103 as being unpatentable over Roche in view of Tyler. Roche discloses a fluid system comprising a hydraulic transformer (e.g. including 36, 38), provided with a rotor (see above) and an adjusting means (e.g. including 56, 58), connected to a hydromotor by connecting lines (e.g. 30); high (e.g. 26) and low (e.g. 60) pressure lines for transporting fluid to and from the transformer; and a flow sensor (e.g. 366) measuring the flow in the connecting line between the transformer and the hydromotor; wherein the transformer transforms a first

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pressure into a second pressure, and includes first, second and third fluid lines connections, a rotor limitlessly rotatable with respect to a housing, a plurality of fluid chambers whose volume varies during rotation between a minimum and a maximum; but does not disclose that the transformer includes a face plate which, during rotation of the rotor, serve to seal and alternately connect the fluid chambers to the three line connections, via face plate gates and three rotor gates; wherein the volume of the fluid chambers when sealed by the face plate have a maximum volume which is either three or four times a minimum volume when sealed; that the rotor has nine or twelve chambers; or that two of the rotor gates are the same size and three walls between the rotor gates simultaneously seal off a chamber.

Tyler teaches, for a transformer (14) which transforms a first pressure into a second pressure, and includes first, second and third fluid lines connections (connected to 78, 82, 86), a rotor (24) limitlessly rotatable with respect to a housing (42), a plurality of fluid chambers (26) whose volume varies during rotation between a minimum and a maximum; that the transformer includes a face plate (68) which, during rotation of the rotor, serve to seal and alternately connect the fluid chambers to the three line connections, via face plate gates and three rotor gates (opposite ends of 70, 71, 72, 74); wherein the volume of the fluid chambers when sealed by the face plate have a maximum volume which is either three or four times a minimum volume when sealed (since the chambers are sealed at top and bottom of the movement, where there is little change in movement of the pistons and that two of the rotor gates (e.g. 71, 72) are the same size and three walls between the rotor gates simultaneously seal off a chamber.

Since Roche does not teach details of the displacers and Tyler does; it would have been obvious at the time the invention was made to one having ordinary skill in the art to make the displacers of Roche include a face plate which, during rotation of the rotor, serve to seal and alternately connect the fluid chambers to the three line connections, via face plate gates and three rotor gates; wherein the volume of the fluid chambers when sealed by the face plate have a maximum volume which is either three or four times a minimum volume when sealed; and that two of the rotor gates are the

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same size and three walls between the rotor gates simultaneously seal off a chamber, as taught by Tyler, as a matter of engineering expediency.

Note that since the claim language uses the open-ended form "comprising", a limitation claiming "three rotor gates" is met by a device having more than three rotor gates.

The transformer of the modified Roche has two concentric rings of chambers, with the number in each ring being chosen for optimum results. It would have been obvious at the time the invention was made to one having ordinary skill in the art to make the number of chambers in each ring of the modified Roche 6, resulting in a total of twelve chambers, as a matter of engineering expediency.

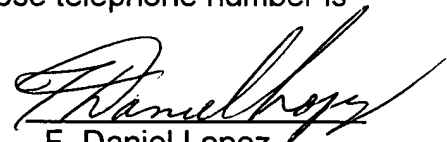
Conclusion

Claims 28-30, 33 and 38-42 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. § 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Achten is the U.S. patent of WO 97/31185

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Lopez whose telephone number is (703) 308-0008. The examiner can normally be reached on Monday-Thursday from 6:30 AM -4:00 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Look, can be reached on (703) 308-1044. The fax number for this group is (703) 308-7763. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0861.



F. Daniel Lopez
Primary Examiner
Art Unit 3745
November 8, 2001